Developing Primary 5 students' use of metacognitive strategies in listening

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Abstract

Listening is often regarded as a neglected skill as not enough is done in classrooms to enhance students' awareness of it. Many students do not know how to listen strategically for information. This study investigates the impact of explicit teaching of metacognitive strategies in listening comprehension. A teacher involved in the project taught Primary 5 students a series of six lessons that focused on developing metacognitive learner strategies using a process-based approach. These lessons were designed using an adaptation of the Metacognitive Pedagogical Sequence for listening instruction (Vandergrift, 2012). The students reflected on their listening processes at the end of each lesson. The findings suggest that the students became more aware of metacognitive learner strategies for listening and applied them to listening comprehension tasks. The lower progress students benefitted most from the metacognitive instruction as they reported a greater use of the metacognitive strategies and showed improvement in their listening comprehension scores.

Introduction

Listening is an important skill for language development and the foundation of effective communication. It is the key channel of classroom instruction and an extensively used skill both at work and at home (Goh, 2002). Listening is an active process that involves constructing meaning, and assessing and responding to what one hears. According to a study by Goh, Zhang, Ng and Koh (2005), teachers in Singapore reported that they did not allocate much time to the teaching of listening skills in comparison with reading, writing and speaking skills. Teachers' pedagogical practices focused more on testing rather than teaching listening skills. The authors argued that students had to be taught listening skills explicitly so that they could make sense of oral communication and develop as critical listeners. Students needed to understand the processes involved in listening, adopting a metacognitive stance and developing greater control of the mental and social processes of listening.

A survey on their use of learner strategies for listening, conducted with the Primary 5 students who participated in the study reported here, revealed that many of them were not able to identify the

specific listening strategies that they used during listening tasks. Some students mentioned that they did not know how to process the listening input and experienced difficulties in responding to listening tasks. As a result of the insights developed from the survey, we decided to find out more about the importance of metacognitive strategies in listening comprehension activities.

Literature Review

Metacognition, a term coined by Flavell (1976), can be understood as thinking about thinking. Metacognitive knowledge and metacognitive strategies are sub-components of metacognition. According to Goh (2008), more has been done in recent years in the form of strategy instruction and the raising of awareness of learner metacognition to facilitate listening development. Possessing metacognitive knowledge and using metacognitive strategies are important in helping language learners comprehend an aural message (Vandergrift, 2002, 2004). Table 1 shows three types of metacognitive knowledge as classified by Wenden (1991).

Table 1
Types of Metacognitive Knowledge

Strategy Knowledge	Task Knowledge	Person Knowledge
Knowledge about effective strategies for particular tasks and knowledge about how best to approach language learning These strategies include: - Cognitive strategies; - Metacognitive strategies; - Socio-affective strategies.	Knowledge of the purpose and nature of the task, knowledge of task demands and knowledge of when a deliberate effort is required.	Knowledge of the cognitive and affective factors that facilitate learning and what learners know about themselves as learners.

Metacognitive listening strategies involve the processes of planning, monitoring, problem solving and evaluating (Vandergrift & Goh, 2012). Vandergrift (1997) adapted a taxonomy of language learning strategies from O'Malley and Chamot (1990) for listening. This taxonomy helps to organise listening strategies according to the roles they play in facilitating listening comprehension and overall listening development. Listening strategies include processing and interpreting information by manipulating and transforming listening input, and using appropriate steps to manage and regulate cognitive processes. Learners can become better at listening when their knowledge of the processes involved in listening is enhanced (Vandergrift, Goh, Mareschal, & Tafaghodtari, 2006). The effective use of metacognitive listening strategies supports students in increasing their self-regulation and autonomy in listening (Vandergrift, 2002) and facilitates successful listening comprehension.

The use of metacognitive instruction in listening lessons can help learners to improve in terms of 'learner affect', enhance 'learners' knowledge about the listening process' and increase 'listening performance and strategy use for facilitating comprehension' (Goh, 2010, p. 9). A study by Goh and Taib (2006) carried out among Singapore primary school students focused on the use of metacognitive instruction through process-based discussions. The findings revealed that process-based discussions helped students to be more metacognitively aware of the listening processes. Goh and Kaur (2013) gathered information about young learners in relation to their metacognitive knowledge, strategy use and perceptions of difficulty with listening tasks involving different types

of text and it was reported that learners were able to show 'some metacognitive awareness about listening through reporting mental processes that took place during listening and describing some strategies that they had used' (p. 15).

For listening instruction that aimed to enhance students' use of metacognitive strategies when engaging in listening comprehension tasks, Vandergrift and Goh (2012) proposed a Metacognitive Pedagogical Sequence, comprising planning/ predicting, a first verification and a plan with peers for a second listen, a second verification and text reconstruction or other comprehension activity, a final verification and reflection and goal setting. They suggested the pedagogical sequence would help teachers craft process-based lessons designed to develop the students' awareness of listening processes and metacognition. Using a scaffolded approach, learners are guided in making predictions, monitoring, problem solving and evaluating as they engage in listening tasks. Through metacognitive instruction, students acquire metacognitive knowledge, which is critical to success in listening comprehension and in becoming self-regulated learners. Several studies (Cross, 2010; Liu & Goh, 2006; Mareschal, 2007; Vandergrift & Tafaghodtari, 2010) have shown that interaction among learners during the listening lessons has an impact on learners' metacognitive awareness. Thus, a social component should also be considered for an effective metacognitive process for learning.

Reflection is an important part of the metacognitive process. It can be carried out before or after listening tasks in order to help students plan, monitor and evaluate their listening experiences. Students can be guided with prompts to articulate their thoughts about the processes they engage in when listening. Various reflection tools, such as self-report checklists and listening diaries (Goh & Vandergrift, 2012; Kaur,2014), have been used to provide learners with the opportunity to talk or write about their thoughts, feelings and reactions to listening tasks. Such tools facilitate the learners' self-evaluation of their listening abilities, behaviour, strengths and weaknesses. As part of formative assessment, teachers can use the input gathered from learners and guide them in developing their listening skills.

There is a need for more research to be conducted within the Singapore context on the use of metacognitive strategies in listening. Further studies could inform teachers of the impact of the explicit teaching of metacognitive strategies for listening on learning outcomes. Our study aims to contribute to knowledge of this aspect of metacognition in listening, by exploring how teachers can support Primary 5 students in developing their metacognitive awareness when engaged in listening tasks. The research question guiding the study was as follows:

To what extent does the explicit teaching of metacognitive learner strategies for listening to Primary 5 students enable them to use these strategies when listening?

Methodology

This section describes the intervention lessons that the teachers designed and the methods of data collection that were used.

Participants

Nine Primary 5 students from a class of 40 students were identified for this study based on their performance in the 2018 Mid-Year Listening Comprehension Examination. Three students from each of the High Progress (HP), Middle Progress (MP) and Low Progress (LP) groups were selected. The lessons were conducted for all the students in the class to ensure that all students had the opportunity to participate in the learning experiences. One teacher in the team taught the metacognitive learner strategies for listening to the students. The other team members, together with the teacher, collected and analysed the data.

Stages of the lessons

Six listening comprehension lessons were conducted and all lessons were 60 minutes long. The six listening comprehension lessons were designed using an adaptation of the Metacognitive Pedagogical Sequence for listening instruction (Vandergrift & Goh, 2012). Table 2 shows the structure and sequence of the listening comprehension lessons during the intervention.

Table 2
Design of the Listening Comprehension Lessons

	Metacognitive Pedagogical Sequence (adapted from Vandergriff & Goh, 2012)			
Stages of the lessons	Planning / predicting with peers	First verification	Second verification and comprehension activity	Reflection and goal-setting
Metacogni- tive pro- cesses	Planning	Monitoring, evaluation and planning	Monitoring, evaluation and problem-solving	Evaluation and planning
Lessons 1-3	Pre-listening: Students brainstorm with the teacher on the topic or discuss the topic with partners / group members. Students make predictions about what they think they are likely to hear about the information/ ideas or words related to the topic.	First Listen: Students predict if information is effective. The teacher explicitly teaches students what they need to do to prepare themselves to monitor the Second Listen. (In lesson 3, as students become familiar with the processes, students discuss with their peers.)	Second Listen: Metacognitive processes are reiterated by the teacher. Students prepare for the second listening to the text. Students complete the task based on the listening input. (In lesson 3, as students become familiar with the processes, they discuss with peers and make further revisions to their interpretations of the text.)	Reflection: Reflection on the listening / learning processes. Students evaluate the strategies they used in the listening ac-
Lessons 4-5		Students predict information and identify what they may have missed out. Students discuss with group members. Teacher elicits from students the metacognitive learner strategies used during listening and provides feedback.	Students prepare for the second listening to the text. In groups, students: a) discuss and make further revisions to their interpretations of the text; and b) discuss the metacognitive learner strategies used. Students complete the task based on the listening input.	tivity, the difficulties they encountered and their plans for future listening tasks.
Lesson 6	Students apply the	metacognitive learner stra	tegies independently.	

Guided by the Gradual Release of Responsibility Instructional Framework (Fisher & Frey, 2016), the students were taught the metacognitive processes of planning, monitoring and evaluation using a scaffolded approach that involved modelling, and guided and independent practice. In Lessons 1 to 3, the teacher modelled the process. In Lessons 4 and 5, the students interacted with their peers and the teacher acted as facilitator. In Lesson 6, students independently applied the skills they had learnt. As part of explicit teaching, the teacher provided a clear explanation and demonstration of the use of metacognitive processes. Through think-alouds, she verbalised her thought processes as she modelled the listening processes. The students saw how the teacher activated prior knowledge, introduced new knowledge and skills, modelled the application of the knowledge and skills, and reflected on her learning. The teacher then supported the students in the processes of listening by helping them to plan, monitor and evaluate their learning.

Through peer discussions, the students had to perform metacognitive checks on how they were learning at different stages of the listening activity. The scaffolded approach used during metacognitive instruction helped the students to gradually internalise the metacognitive strategies learnt, as well as the metacognitive knowledge, and assume a greater control of their learning. The students completed the listening tasks at the end of each lesson by answering multiple-choice questions. For the final two lessons, the students completed both multiple-choice questions and two open-ended questions. The students reflected on the listening processes in their reflective journals at the end of each lesson to assess the effectiveness of the approach they used during the listening tasks.

Reflective journals

The students responded to four questions in their reflective journals. Before the implementation of the study, the questions were piloted in another Primary 5 class to check the validity of the questions.

Questions for reflection:

- 1. What did you do when you were listening?
- 2. What did you find easy to do during the listening task?
- 3. What were the difficulties you experienced during the listening task?
- 4. How do you think you could do better during listening tasks?

Resources used

The listening texts selected for the intervention lessons included different types of texts, such as factual recounts, narratives and information reports as specified in the English Language Syllabus of 2010 and 2020 (Curriculum Planning & Development Division, 2008, 2019). The students were familiar with these types of texts, as they had been exposed to them during previous reading and listening comprehension lessons. The listening resources were audio texts or video clips of about five minutes in length.

Data sources

Data were collected from the following sources:

2018 Mid-Year and End-of-Year Listening Comprehension Examinations
 The mean scores of the Mid-Year and End-of-Year Listening Comprehension Examinations were compared for any differences. The duration of both examinations was 45 minutes and the types of texts used included radio broadcasts, conversations and interviews. The first lesson of the intervention started a month after the 2018 Mid-Year examination and it ended two weeks prior to the End-of-Year Listening Comprehension Examinations.

2. Open-ended questions

The students' responses to open-ended questions in the final two intervention lessons were analysed. The responses were examined to determine how the students processed the listening input to understand the message. These open-ended questions encouraged the students to engage in higher-order thinking that elicited their knowledge, opinions or feelings. The extended responses reflected their listening comprehension abilities, the extent of their developing metacognitive skills and their self-efficacy.

The students' responses provided further information on their thought processes, which included their feelings and understanding of the questions. The responses helped to show the students' thinking by illustrating the students' processing and understanding of the listening input.

3. Reflective journals

The students described their thoughts and feelings about how they had engaged in the listening tasks. They also described the metacognitive strategies they had used to support their understanding of the listening tasks and how these strategies had helped with the listening tasks. Finally, they described the difficulties they had experienced. These journals provided a context for students to engage in reflection and helped to increase consistency in the reporting of student responses through the triangulation of data sources.

Data analysis

The students' responses were coded and themes identified. The various data sources were analysed to study the students' awareness of metacognitive strategies in listening and their impact on their awareness of listening processes and skills.

Results and Discussion

The students reported the use of metacognitive strategies that had been explicitly taught during the intervention lessons. The low progress students showed the greatest use of the metacognitive strategies compared to the middle and high progress groups. All progress groups indicated that they intended to use other metacognitive strategies in subsequent lessons. The following section discusses the analysis of the data and identifies key learning points from this study.

Use of metacognitive listening strategies

Data gathered from the students' reflective journals were analysed using Vandergrift's (1997) framework of metacognitive strategies. The data were analysed and categorised as follows:

- a) the students' reported use of metacognitive strategies during listening tasks; and
- b) the students' planned use of metacognitive strategies for future listening tasks.

The students' reported use of metacognitive strategies during listening tasks

The students' reflections were analysed (Table 3) to gather insights into their reported use of metacognitive strategies as they engaged in the listening tasks during the intervention.

Table 3 shows that the students from all the groups reported the use of the metacognitive strategy 'Directed Attention'. This strategy enabled the students from the HP and MP groups to concentrate on what they needed to do to complete the task. They described what they did when they listened during the lessons with responses such as 'concentrate', 'pay attention' and 'stay focussed'. The HP and LP groups also used Directed Attention when reading the questions for the listening task while the MP and LP groups reported that they focused on the questions. Only the LP group reported that they focused on the listening task.

Table 3

Reported Use of Metacognitive Strategies During Listening Tasks

Question 1: What did you do when you were listening?				
Metacognitive Strategy Use	Examples		MP	LP
Directed Attention (plan- ning stage)	Concentrate, not get distracted, pay attention and stay focused, make sure the mind is focused, listen attentively		٧	
	Read questions	V		V
	Focus on the questions		V	V
	Focus on listening to the task			V
Selective Attention (plan- ning stage)	Highlight keywords		V	V
	Look out for keywords			V
	Get the main idea			V

In addition to the use of Directed Attention, the LP group reported looking for keywords and high-lighting them, indicating the use of the metacognitive strategy, Selective Attention. This strategy supported the students in identifying key aspects of language input or situational details (Vandergrift, 1997) that helped them to make meaning out of the listening input. The LP group only reported looking out for the main ideas through the keywords identified, which indicated the use of Selective Attention. Although all the three progress groups reported using various metacognitive strategies, the LP group reported the most use of Selective Attention strategies.

Overall, the LP group reported more metacognitive strategy use compared to the MP and HP groups. This is consistent with the comparison of the mean scores for the listening comprehension assessment of all three progress groups, where the most improvement was shown by the LP group. Data gathered from the reflective journals in terms of students reporting on what they had found easy to do also supported these findings. The LP group had a higher frequency of reporting Strategy Knowledge (Wenden, 1991) as being something they had found to be easy. The LP group might have reported this because they were able to identify strategies which they were not aware of before the metacognitive instruction took place. Their use of these strategies might have allowed them to cope with the task, despite its perceived difficulty, leading to an improvement in grades.

On the other hand, the HP group made more mentions of the listening tasks being easy for them compared to the MP and LP groups. This could be because higher progress students are usually more successful learners and perceptive of the demands of the tasks. In terms of reporting strategy use, all three groups were only able to report the use of strategies in the planning stage, namely Directed and Selective Attention. This could be attributed to the limited duration of the metacognitive instruction over six lessons. The students might have needed more time to internalise other strategies taught and hence they did not report their use.

The students' planned use of metacognitive strategies for future listening tasks

The students' responses in their reflective journals were analysed in terms of the strategies that they stated they would use for upcoming listening tasks during the intervention. Table 4 shows

that all three progress groups reported that they wanted to use the strategies of Directed Attention and Selective Attention, which were part of the planning stage of the Metacognitive Pedagogical Sequence.

Table 4

Planned Use of Metacognitive Strategies for Future Listening Tasks

Question: How do you think you could do better during the listening tasks?				
Metacognitive Strategies	Examples	НР	MP	LP
Directed Attention (Planning Stage)	Do not get distracted from focusing and listening / concentrate	V		V
	Pay more attention	٧	٧	V
	Focus more on the task	٧		٧
	Focus more on the questions		V	٧
	Focus on the paper more		V	
	Focus on the video and audio clips		٧	V
	Focus and not talk to friends			٧
Selective Attention (Planning Stage)	Focus on difficult questions	٧		٧
	Focus on areas I do not understand	٧		
	Focus on the main idea / highlight the main points	V		V
	Focus on one thing at a time			V
	Highlight the keywords / clues		٧	V
Comprehension Monitoring (Monitoring Stage)	Read the ones I missed and listen again			V
	Read the question properly			V

All three groups reported that they wanted to pay more attention to the strategy of Directed Attention during subsequent listening tasks. Both the MP and LP groups reported that they planned to focus more on the questions and the listening resources. The frequency of reporting on the Directed Attention strategy was higher for both the MP and LP groups compared to the HP group. This might have been the result of the HP group being more familiar with the fundamental strategies for listening and wanting to focus on ones they found more relevant to them.

The LP group reported that they wanted to use the Selective Attention strategy more than the HP and MP groups. There were some similarities between HP and LP students in the choice of strategies which they planned to use. For example, both these groups reported the planned use of Directed Attention to concentrate and focus more on the listening task. For Selective Attention, both the groups mentioned that they would focus on difficult questions and identify the main ideas of the listening texts. The MP group reported less use overall for the Selective Attention strategy. Some similarities between the MP and LP groups in their planned use of the Selective Attention strategy were in the form of the students planning to highlight keywords or the use of clues. Only

the LP group intended to use reading the questions again and listening carefully again for questions they missed. This Comprehension Monitoring strategy might help them to check and verify their understanding of the listening input.

The students, on the whole, showed evidence of their awareness of metacognitive strategies. This could be attributed to the metacognitive instruction they had received during the intervention stage. As well as the strategies which the students had reported using during the listening stage, all groups mentioned they wanted to use, in future listening tasks, other strategies such as wanting to focus more on the listening input and paying more attention to the difficult questions. The frequency of the planned use of Directed Attention was higher than the reported use during the listening stage. Although the HP group did not mention the use of the Selective Attention strategy during the listening stage, they had plans to use it for subsequent listening tasks.

The students showed a growing awareness of the need to use metacognitive strategies and activate the processes that skilled listeners use in order to be successful in managing listening tasks. They were able to evaluate their performance on listening tasks and think of ways to improve. In doing so, these students demonstrated their understanding of metacognitive strategies of Performance and Strategy Evaluation. This is consistent with the findings gathered from their reflective journals, where students reported the difficulties they faced during the listening tasks. All three groups of students were able to give specific examples of the listening tasks that they found to be difficult. Some students showed they were able to make an evaluation of task difficulty when they mentioned that some of the questions were 'confusing and tricky'. On the whole, the students demonstrated an increased use of metacognitive strategies and a greater awareness of listening processes.

Qualitative analysis of the students' performance in open-ended questions

Table 5 shows sample responses by students from the three progress groups to two open-ended questions. The HP group was able to give accurate responses to Question 1. However, students from both the MP and LP groups provided only partially accurate responses such as, 'He got scratches on his face' and 'Getting beaten up [sic] the wolves'. For Question 2, students from both the HP and MP groups gave accurate responses, whereas students from the LP group only provided partial answers.

Table 5
Sample Students' Responses to the Open-Ended Questions

Progress Group	Question 1 What do you think happened to the wolf in the end?	Question 2 How do you know that traditional dolls are famous?
HP (Student A)	The wolf got even more injured. (accurate answer)	He can find them in homes far away from the country they were made in. (accurate answer)
MP (Student E)	He got scratches on his face. (partial answer)	It can find in households faraway from Russia, such as Singapore and Australia. (accurate answer)
LP (Student G)	Getting beaten up the wolves. (partial answer)	You can even find it at faraway places. (partial answer)

The responses provided by the HP group suggest that the students were equipped with effective listening skills and were aware of their thought processes and so were able to respond appropriately to the open-ended questions. This was also evident in their performance in the semestral assessments and from teachers' professional judgments. The MP group showed that they understood the listening input as reflected in their elaborated responses.

Although the LP group appeared to show improvement in answering multiple-choice questions, they did not display similar listening comprehension competencies when responding to the openended questions. This could be attributed to the need for more complex information processing and the use of higher order thinking skills, such as making inferences, which these students were still developing. They also may not have had the language skills to write their answers accurately.

The Metacognitive Pedagogical Sequence adopted during the intervention could have helped all the students to plan, monitor and evaluate their listening. The gains made by the LP group appeared to be larger than those of the HP group. The MP group appeared not to have developed their listening competencies as much as the other progress groups with only one student amongst them showing an improvement in his end-of-year listening score. The other two students in the group might not have given sufficient attention to learning or enhancing these skills. The data indicates that instruction in metacognitive listening may have especially raised the awareness of the LP students of the strategies that helped them to listen more effectively and thus promote their listening comprehension ability.

Impact on the students' performance in listening comprehension

The students' Mid-Year and End-of-Year Listening Comprehension Examination scores were compared for any differences in the students' performance, which might have indicated the impact of the intervention. For example, the students could have used some of the metacognitive strategies they had learnt earlier to help them process the listening input. The students' responses to openended questions for the listening tasks during the intervention phase were also analysed to gather insights into the students' cognitive and metacognitive processes through their extended responses.

Quantitative analysis of the students' performance in the semestral assessment

Figure 1 shows a comparison of the mean scores of all three progress groups. The HP and LP groups showed an increase in the overall mean scores of 13.4% and 20% respectively. The MP group showed a slight decrease in the overall mean score. However, one of the students in the MP group showed an increase of 10% in his end of year listening comprehension examination score.

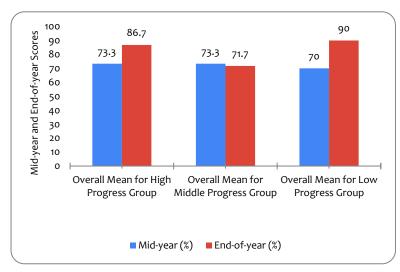


Figure 1: Comparison of mean scores of HP, MP and LP groups for the midyear and end-of-year examinations

Although the students from the HP group made an improvement in their listening comprehension scores, those from the LP group showed a greater level of improvement. This could be a result of the explicit teaching of metacognitive strategies for listening to the LP group, who might not have been familiar with the strategies or might not have used them actively during listening comprehension. These students' heightened awareness of these strategies could have led to a larger improvement in their scores.

The relatively low increase in the scores of the HP group could have been a result of the good listening skills that they already possessed only being marginally affected by their having been made even more aware of the metacognitive learner strategies through the intervention.

Implications

The findings from this study provide some considerations for the teaching of listening skills that focus on developing metacognitive awareness among students.

Explicit teaching of metacognitive listening strategies

There is a need for the explicit teaching of metacognitive strategies that help students to plan, monitor and evaluate the listening processes. This approach is consistent with the recommendations in the English Language (EL) Syllabus 2020 (Curriculum Planning & Development Division, 2019) where metacognition plays an important role in enhancing students' language proficiency. Based on the findings in this study, the explicit teaching of metacognitive strategies may benefit LP students most and contribute to a 'levelling up' of these students.

Teachers should adopt a scaffolded approach in their listening lessons to support and guide students in learning metacognitive strategies. Students should be given many opportunities for listening practice to develop these strategies. The focus of teaching listening activities should not only be to evaluate students, thus causing potential student anxiety and fear, but also to support them in the learning process.

Crafting learning experiences for listening

To facilitate the explicit teaching of metacognitive strategies for listening, teachers could consider the Metacognitive Pedagogical Sequence and Gradual Release of Responsibility Instructional Framework (Fisher & Frey, 2016) to design learning experiences that incorporate explicit strategy and metacognitive instruction, along with activities for developing listening strategies. By structuring learning around planning, and monitoring and evaluating the listening processes, students could internalise the strategies and gain control of their own learning. In addition, teachers could create opportunities within these learning experiences for students to reflect on their learning thus providing teachers feedback on students' development and the design of the learning experiences.

Choice of resources

By selecting appropriate listening resources based on a principled and systematic approach to metacognitive instruction, teachers can more effectively facilitate their students' comprehension of listening texts and guide students into becoming self-directed in their listening development. Teachers should consider a variety of resources that are interesting and motivating for their listening comprehension lessons. These can range from audio clips to visual ones such as video clips. Instead of solely relying on commercially produced listening resources, teachers can expose students to more authentic resources that are relevant to their daily lives such as YouTube video clips and news broadcasts.

Conclusion

Students can be instructed in metacognitive strategy use to enhance their performance in listening tasks. This study provided the participating teachers with an understanding of how young learners think and perform during listening comprehension tasks. The Metacognitive Pedagogical Sequence offers teachers an approach that can be used to guide students, especially lower progress students, through the mental processes of effective listening.

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